IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Halbe Tiemen Hageman	§	Group Art Unit:	2617
Application No	10/596,633	§	Examiner:	Sarwar, Babar
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For: ADAPTIVE POWER MANAGEMENT FOR A NODE OF A MOBILE TELECOMMUNICATIONS NETWORK

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APPEAL UNDER 35 U.S.C. §134

This Brief is submitted in connection with the decision of the Primary Examiner set forth in Final Official Action dated June 22, 2010, finally rejecting claims 9-26, which are all of the pending claims in this application.

The Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §41.20(b)(2) that may be required by this paper, and to credit any overpayment, to Deposit Account No. 50-1379.

Real Party in Interest

The real party in interest, by assignment, is: Telefonaktiebolaget LM Ericsson (publ)
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Related Appeals and Interferences

None.

Status of Claims

Claims 1-8 were previously cancelled and are not appealed. Claims 9-26 are pending in the present application, each of which are finally rejected and form the basis for this Appeal. Claims 9-26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Ruuska Tauno (US 6,584,330 B1) ("Ruuska") in view of Martin W. Greenwood (GB 2,281,458 A) ("Greenwood"). Claims 9-26, including all amendments to the claims, are attached in the Claims Appendix.

Status of Amendments

The claims set out in the Claims Appendix include all entered amendments. No amendment has been filed subsequent to the final rejection.

Summary of Claimed Subject Matter

Claim Element	Specification Reference
9. A telecommunication apparatus having a plurality of traffic handling units, and a plurality of power supply units for powering the plurality of traffic handling units, comprising:	Throughout the Specification, including: page 7, line 27 to page 8, line 29.
a control means adapted to receive input information on a power criterion so as to determine a power budget for the plurality of supply units and plurality of traffic handling units based on the power criterion wherein the power budget is less than the power required for maximum traffic handling of all the traffic handling units and less than the maximum available power from all the power supply units; and	Throughout the Specification, including: page 8, line 30 to page 9 line 7
the control means operable to activate an amount of traffic handling units of the plurality of traffic handling units having a total power consumption equal or less than the power	Throughout the Specification, including: page 10, line 10 to page 11, line 15

budget; and	
the control means operable to activate an amount of power supply units of the plurality of power supply units matching the total power consumption of the amount of activated traffic handling units, wherein the control means are operable to transfer active traffic from a traffic handling unit which is to be de-activated, to one or more of the other activated traffic handling units, before deactivating the to be de-activated traffic handling unit.	Throughout the Specification, including: page 10, line 35 to page 11, line 5

The specification references listed above are provided solely to comply with the USPTO's current regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references, nor to limit the scope of the claimed invention in any manner.

Grounds of Rejection to be Reviewed on Appeal

I. The rejection of Claims 9-26 under 35 U.S.C. § 103(a) as being unpatentable over Ruuska in view of Greenwood is to be reviewed on appeal.

Argument

I. The rejection of Claims 9-26 under 35 U.S.C. § 103(a) as being unpatentable over Ruuska in view of Greenwood should be overturned.

A. The cited passages of Ruuska and Greenwood fail to disclose, teach, or even suggest the elements of independent Claims

Claims 9-26 are pending in the application and are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ruuska and Greenwood. While not conceding that the cited references qualify as prior art, but instead to expedite prosecution, Appellant has chosen to respectfully disagree and show that the rejections of the Final Office Action are in clear error. Appellant reserves the right, for example, in a continuing application, to establish that the cited references, or other references cited now or

hereafter, do not qualify as prior art as to an invention embodiment previously, currently, or subsequently claimed.

Appellant respectfully submits that the rejections of the Final Office Action are in clear error because the cited passages of Ruuska and Greenwood, taken alone or in any permissible combination, fail to disclose, teach, or even suggest the elements of independent claim 9. For example, Ruuska and Greenwood, taken alone or in any permissible combination, fails to disclose, teach, or even suggest "a control means adapted to receive input information on a power criterion so as to determine a power budget for a plurality of power supply units and plurality of traffic handling units based on the power criterion wherein the power budget is less than the power required for maximum traffic handling of all the traffic handling units and less than the maximum available power from all the power supply units" (*emphasis added*), as recited in independent claim 9. In support of the rejection, page 5 of the Final Office Action cites various elements of FIG. 4 and col. 5, lines 42-58 of Ruuska as disclosing the recited "power budget" and "power criterion." Col. 5, lines 42-58 of Ruuska discusses:

> Referring to FIG. 4, the base station (RBS or BS) 7 includes a traffic load measuring device 61, a power consumption measuring device 63 for measuring the input power consumption of the base station, database memory 65, a statistical analysis and compilation function 67, and power saving control logic (e.g., in the form of software, hardware, or the like) 69 for analyzing traffic load and/or power measurements and deciding how to best save power at the base station based upon the same. Logic 69, in order to save power, may cause one or more of the following to occur: turning off one or more carriers 71 (see step 53 in FIG. 3), reducing fan use/power 73 (see step 49 in FIG. 3), causing one or more printed circuit boards to enter a sleep mode 75 (see step 55 in FIG. 3), turning off one or more amplifiers 77 (see step 51 in FIG. 3), and/or causing one or more channels to enter a sleep mode 79 (see step 57 in FIG. 3).

In other words, the cited passage of Ruuska discusses power saving control logic that analyzes information from a traffic load measuring device and a power consumption measuring device and determines how to reduce power consumption of the base station by putting certain components into a reduced power state such as a sleep mode. However, nothing in Ruuska and Greenwood, taken alone or in any permissible combination, discusses determining a power budget "wherein the power budget is less

than the power required for maximum traffic handling of all the traffic handling units and less than the maximum available power from all the power supply units," as recited in independent claim 9. In fact, Ruuska's "power saving control logic" when "deciding how to best save power at the base station" (apparently analogized to the claimed "power budget," a point which Appellant does not concede) completely fails to take into account factors such as, for example, "the maximum power available from all the power supply units" (*emphasis added*), as recited in independent claim 9 as opposed to merely considering the amount of power consumed by the base station (as discussed in Ruuska and Greenwood).

One with skill in the art would not even expect Ruuska and Greenwood, taken alone or in any permissible combination, to disclose, teach, or even suggest the aforementioned elements of independent claim 9 because the cited passages of Ruuska merely concentrate on reducing the power consumption of the particular base station such as placing components of the particular base station into sleep mode. In stark contrast, the "power budget," as recited in independent claim 9, explicitly takes into account factors such as "the power required for maximum traffic handling of all the traffic handling units" *as well as* "the maximum available power from all the power supply units."

Thus, for at least these reasons, Ruuska and Greenwood, taken alone or in any permissible combination, fail to disclose, teach, or even suggest the elements of independent claim 9. Independent claim 9 and all claims dependent therefrom are thus patentable. Appellant therefore respectfully submits that the rejection is in error and should be overturned.

CONCLUSION

The claims currently pending in the application are patentable over 9-26, and the Applicants request that the Examiner's rejection thereof be reversed and the application be remanded for further prosecution.

Respectfully submitted,

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CLAIMS APPENDIX

1. – 8. (Canceled)

9. (Previously Presented) A telecommunication apparatus having a plurality of traffic handling units, and a plurality of power supply units for powering the plurality of traffic handling units, comprising:

a control means adapted to receive input information on a power criterion so as to determine a power budget for the plurality of power supply units and plurality of traffic handling units based on the power criterion wherein the power budget is less than the power required for maximum traffic handling of all the traffic handling units and less than the maximum available power from all the power supply units; and

the control means operable to activate an amount of traffic handling units of the plurality of traffic handling units having a total power consumption equal to or less than the power budget; and

the control means operable to activate an amount of power supply units of the plurality of power supply units matching the total power consumption of the amount of activated traffic handling units, wherein the control means are operable to transfer active traffic from a traffic handling unit which is to be de-activated, to one or more of the other activated traffic handling units, before de-activating the to be de-activated traffic handling unit.

10. (Previously Presented) The telecommunication apparatus of claim 9, wherein the control means are adapted to transfer active traffic from a traffic handling unit which is to be de-activated, to one or more of the activated traffic handling units, before de-activating the to be de-activated traffic handling unit.

11. (Previously Presented) The telecommunication apparatus of claim 9, wherein a maximum power output of a subgroup of the plurality of power supply units matches a maximum power consumption of a subgroup of the plurality of traffic handling units.

12. (Previously Presented) The telecommunication apparatus of claim 9, wherein the control means further comprises:

a power status monitor for determining the power budget based on the power criterion;

a regulator for generating a regulator signal from an amount of active traffic; and

a decider for deciding on an activation of one or more of the plurality of power supply units based on the power budget as determined by the power status monitor, the regulator signal and an actual power consumption.

13. (Previously Presented) The telecommunication apparatus of claim 12, wherein the decider comprises a decision mechanism for taking account of the power budget as a limit value, the regulator signal as a desired value, and the actual used power as a factual value, the decision mechanism being adapted for activating as many power supply units and traffic handling units as required to match the regulator signal, the decision mechanism however being adapted to activate no more power supply units and traffic handling units than allowed by the power budget.

14. (Previously Presented) The telecommunication apparatus of claim 9, wherein the control means further comprises:

a stay alive mechanism operable, when the power budget is under a first, predetermined level, to only activate power supplies and traffic handling units to process emergency calls;

the stay alive mechanism operable, when the power budget is under a second, predetermined level which is lower than the first level, to not activate any of the traffic handling units and only keep the control means and further monitoring hardware active, and

the stay alive mechanism operable, when the power budget is under a third, predetermined level which is lower than the second level, to shut down the telecommunication apparatus.

15. (Previously Presented) The telecommunication apparatus of claim 9, wherein the power criterion comprises at least one selected from the group consisting of: an amount of solar cell generated power, a charging condition of a battery for supplying power to the apparatus, a value of a mains voltage supplied to the apparatus, an amount of fuel in a fuel tank of a generator for generating power for feeding the apparatus, and a failure of a power supply unit.

16. (Previously Presented) The telecommunication apparatus of claim 15, wherein the control means are adapted to transfer active traffic from a traffic handling unit which is to be de-activated, to one or more of the activated traffic handling units, before de-activating the to be de-activated traffic handling unit.

17. (Previously Presented) The telecommunication apparatus of claim 15, wherein a maximum power output of a subgroup of the plurality of power supply units matches a maximum power consumption of a subgroup of the plurality of traffic handling units.

18. (Previously Presented) The telecommunication apparatus of claim 15, wherein the control means further comprises:

a power status monitor for determining the power budget based on the power criterion;

a regulator for generating a regulator signal from an amount of active traffic; and

a decider for deciding on an activation of one or more of the plurality of power supply units based on the power budget as determined by the power status monitor, the regulator signal and an actual power consumption.

19. (Previously Presented) The telecommunication apparatus of claim 18, wherein the decider comprises a decision mechanism for taking account of the power budget as a limit value, the regulator signal as a desired value, and the actual used power as a factual value, the decision mechanism being adapted for activating as many power supply units and traffic handling units as required to match the regulator signal,

the decision mechanism however being adapted to activate no more power supply units and traffic handling units than allowed by the power budget.

20. (Previously Presented) The telecommunication apparatus of claim 15, wherein the control means further comprises:

a stay alive mechanism operable, when the power budget is under a first, predetermined level, to only activate power supplies and traffic handling units to process emergency calls;

the stay alive mechanism operable, when the power budget is under a second, predetermined level which is lower than the first level, to not activate any of the traffic handling units and only keep the control means and further monitoring hardware active, and

the stay alive mechanism operable, when the power budget is under a third, predetermined level which is lower than the second level, to shut down the telecommunication apparatus.

21. (Previously Presented) The telecommunication apparatus according to claim 9, wherein the power criterion comprises a forecast of at least one selected from the group consisting of: an amount of solar cell generated power, a charging condition of a battery for supplying power to the apparatus, a value of a mains voltage supplied to the apparatus, an amount of fuel in a fuel tank of a generator for generating power for feeding the apparatus, and a traffic load of the apparatus.

22. (Previously Presented) The telecommunication apparatus of claim 21, wherein the control means are adapted to transfer active traffic from a traffic handling unit which is to be de-activated, to one or more of the activated traffic handling units, before de-activating the to be de-activated traffic handling unit.

23. (Previously Presented) The telecommunication apparatus of claim 21, wherein a maximum power output of a subgroup of the plurality of power supply units

matches a maximum power consumption of a subgroup of the plurality of traffic handling units.

24. (Previously Presented) The telecommunication apparatus of claim 21, wherein the control means further comprises:

a power status monitor for determining the power budget based on the power criterion;

a regulator for generating a regulator signal from an amount of active traffic; and

a decider for deciding on an activation of one or more of the plurality of power supply units based on the power budget as determined by the power status monitor, the regulator signal and an actual power consumption.

25. (Previously Presented) The telecommunication apparatus of claim 24, wherein the decider comprises a decision mechanism for taking account of the power budget as a limit value, the regulator signal as a desired value, and the actual used power as a factual value, the decision mechanism being adapted for activating as many power supply units and traffic handling units as required to match the regulator signal, the decision mechanism however being adapted to activate no more power supply units and traffic handling units than allowed by the power budget.

26. (Previously Presented) The telecommunication apparatus of claim 21, wherein the control means further comprises:

a stay alive mechanism operable, when the power budget is under a first, predetermined level, to only activate power supplies and traffic handling units to process emergency calls;

the stay alive mechanism operable, when the power budget is under a second, predetermined level which is lower than the first level, to not activate any of the traffic handling units and only keep the control means and further monitoring hardware active, and

the stay alive mechanism operable, when the power budget is under a third, predetermined level which is lower than the second level, to shut down the telecommunication apparatus.

* * *

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.